REMARKS

Claims 1-11 are active in the application.

Claims 3-5 and 9-11 have been amended to correct an antecedent basis error resulting from amendments in the prior response. No new matter has been added.

Claims 1-2 and 7-8 were rejected under 35 USC 102 as being anticipated by US patent 6,330,083 to Nabeshima et al. These rejections are traversed by amendment and argument on the grounds that Nabeshima et al. do not teach or suggest detecting *ambient* temperature. Nabeshima et al. require the temperature detector to be located on the tube wall, in close contact with a heater that heats the tube wall.

Claims 1-2 and 7-8 were rejected under 35 USC 102 as being anticipated by US patent 6,313,586 to Yamamoto et al. These rejections are traversed. Similar to the above, neither Nabeshima nor Yamamoto et al teach that the temperature sensor is located near the lamp tube, and so does not detect an ambient temperature as required in the present invention.

Claims 1 and 7 have been amended to require that the temperature detector detects a temperature <u>at a location away from the cold-cathode-tube light source</u>. This added limitation is supported by the specification at page 8, lines 10-12 and page 15, lines 10-15 and by Fig. 2, which shows the temperature detector 15 located far from the light source 2. The amendments do not change the scope of the claims, since this limitation is already inherent in the term "ambient" as used in the present application.

Claims 3-5 and 9-11 were rejected in view of Nabeshima et al as being obvious, and, separately, were rejected in view of Yamamoto et al. as being obvious. This rejection is traversed for similar reasons to those set forth above. That is, no combination of Nabeshima and Yamamoto would include the detection of ambient temperature.

Claim 6 was rejected under 35 USC 103(a) as being obvious in view of Yamamoto et al. in combination with US patent 6,127,785 to Williams et al. This rejection is traversed. Williams does not teach detection of lamp impedance. Further, no combination of references make the recited features obvious to one of ordinary skill in the art.

The present invention provides a scanner having a cold cathode light source that provides a constant illumination despite variations in ambient temperature. The scanner has a temperature detector for detecting an ambient temperature at a location *away from the cold cathode light source or other sources of heat.* Locating the temperature sensor away from heat sources (such as the cold cathode light source) provides advantages described on page 2, lines 20-page 3, line 19. Specifically, it is easier to manufacture a scanner with the temperature detector located away from the cold cathode light source. This is because there is very little space for the detector circuitry in the vicinity of the cold cathode light source. Detecting only the ambient temperature is acceptable in scanning devices because scanning devices operate the light source for only a few seconds, which does not significantly increase the light source temperature above ambient. Hence, the present invention provides a scanner with luminance control that does not require the placement of the temperature detector near the cold cathode light source.

By comparison, Nabeshima et al. teach a very different device. Specifically, Nabeshima et al. teach that the cold cathode light source has a heater 217 for heating the tube wall. The temperature detector 218A is positioned to detect the temperature of the tube wall and thereby provide feedback control for the tube wall heater. Hence, Nabeshima et al. does not detect an *ambient* temperature, as required in the present invention and claims 1 and 7. Specifically, Nabeshima et al. state in col. 6, lines 22-29: "In order to suppress this fluctuation in light quantity, a heater 217 is wound around the fluorescent lamp 215, and this heater 217 is controlled by a temperature control circuit 218B based on a signal from a temperature sensor 218A, such as a thermistor or the like, for detecting the tube wall temperature, thereby maintaining the tube wall temperature within a specified temperature range." This teaching of Nabeshima et al. is contrary to the requirements of claims 1 and 7, which require that the temperature detector detects an "ambient temperature at a location away from the cold cathode tube light source". "Ambient" in the present invention and claims is understood to be limited to locations in the scanner that do not have heat generation (see page 8, lines 10-12 and page 15, lines 10-15 of the specification). Nabeshima et al. specifically teach that the temperature detector 218A must be located adjacent to a heater for heating the tube, and so obviously

does not detect an "ambient temperature". Therefore, Nabeshima et al. does not meet or suggest the recited features of claims 1-2 or 7-8. and the rejections of these claims based on Nabeshima et al. must be withdrawn.

The Yamamoto et al. reference also falls short of anticipating claims 1-2 and 7-8 for similar reasons. Yamamoto et al. teaches in col. 4, lines 28-31: "The temperature sensor 17 is located at (sic) *in the vicinity of the CCFL 11*. The temperature sensor 17 detects an environmental temperature *of the CCFL 11* to supply a detection temperature to the INV control circuit 18." (emphasis added). As is clear from this passage, Yamamoto et al. teach that the temperature detector is located to detect the temperature *of the CCFL* 11, not the ambient temperature. Therefore, the Yamamoto et al. reference also does not anticipate claims 1-2 and 7-8, which require that the temperature detector detects an *ambient* temperature, *away* from heat sources and the CCFL. Hence, the rejections of claims 1-2 and 7-8, based on Yamamoto et al. are erroneous and must be withdrawn.

Contrary to the Examiners argument, the term "ambient temperature" is *not* open to various interpretations. In the present specification, the term "ambient temperature" refers to the temperature at a location away from the cold cathode light source and other sources of heat (see page 15, lines 10-15). The Examiner's assertion that "ambient temperature" can include the temperature of the cold cathode tube wall is specifically excluded in the present specification, which states at page 15, lines 12-13: "...the ambient temperature, *not being the temperature of the cold-cathode-tube light source*". Hence, the Examiners peculiar interpretation of "ambient" is specifically disallowed by the present specification. The Examiner is reminded that an applicant can be his/her own lexicographer, and that claim terms are defined by the specification (see MPEP 2173.05(a)).

The rejections of claims 5 and 11 are improper on the grounds that neither Nabeshima et al. nor Yamamoto et al. teach or suggest using frequency control the illumination level of the cold cathode light source. The cited references provide absolutely no motivation to control frequency. The Examiner states, without citing any references or evidence, and without taking official notice, that it is "known" to control a cold cathode light source using frequency control. The obviousness rejections are therefore improper and must be withdrawn. Even if official notice could be made, the

argument noted above still applies. That is, neither reference shows or suggests detection of ambient temperature.

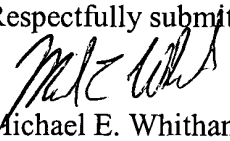
The rejection of claim 6 is also erroneous and is traversed on the grounds that Williams does not teach "an *impedance* detection circuit for detecting an impedance between electrodes of said cold-cathode-tube light source", as recited in claim 6. What Williams teaches instead is a *current* detector for detecting current through the lamp. Williams teaches the use of a current sense impedance (resistor) connected in series with the lamp. Specifically, Williams states in col. 4, lines 64-67: "Feedback circuit 30 functions to produce, at terminal 31, a feedback signal FB indicative of the *magnitude of current* I_{lamp} conducted by fluorescent lamp 15." Williams does not teach or suggest detecting the impedance between the lamp terminals, as required in present claim 6. Williams teaches only that the lamp current is sensed and used for feedback control. Additionally, Williams does not teach or suggest monitoring the voltage across the lamp, and using this figure in combination with the current value to calculate impedance. In fact, Williams teaches away from monitoring lamp impedance in col. 5, lines 29-32, which state: "Circuit 10 functions to keep the lamp current I_{lamp} substantially constant, *independent of lamp impedance* or power supply voltage." Hence, lamp impedance is a variable of little concern to Williams, and so is not detected or monitored. Nowhere does Williams suggest that lamp impedance can be detected, or used to control the operation of the lamp. Accordingly, the rejection of claim 6 is in error and must be withdrawn.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-11 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees for the petition or for entry of this amendment to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson P.C.).

Respectfully submitted,



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